Title: INTELLIGENT BRAKING SYSTEM AND METHOD

REMARKS

Applicant has reviewed and considered the Office Action dated December 4, 2003, and the references cited therewith.

Claims 1, 14 and 26 are amended, no claims are canceled, and no claims are added; as a result, claims 1-45 remain pending in this application.

Claims 1, 14 and 26 are amended to more clearly define the subject matter. Support for the amendments are found throughout the specification, including, for example, Fig. 3 and the description thereof.

§102 Rejection of the Claims

Claims 1, 3-4, 6-8, 12-14, 19, 23-28, 31-34, 42, and 44-45 were rejected under 35 USC § 102(b) as being anticipated by Throne-Booth (U.S. 3,519,805).

Applicant respectfully traverses the rejection and submits that proper prima facie anticipation has not been established. For example, and notwithstanding the amendment, Applicant is unable to find, in Throne-Booth, a teaching wherein the first range detector is adapted to wirelessly detect a range, as recited in claim 1. In describing "the actual position of the vehicle," Throne-Booth, at column 6, lines 47-48 refers to "cables laid between the track rails." Applicant respectfully submits that Throne-Booth does not disclose the claimed subject matter.

In addition, and notwithstanding the amendment, Applicant is unable to find, in Throne-Booth, a teaching of receiving distance data from a wireless range detector based on a distance between a vehicle and an obstacle, as recited in claim 14. Furthermore, Applicant is unable to find, in Throne-Booth, a teaching of receiving obstacle information from a wireless sensor insensitive to speed, the sensor coupled to the vehicle, as recited in claim 26.

In addition, Applicant is unable to find, in Throne-Booth, a teaching of receiving an electronic direction signal for the vehicle, as recited in claim 34. Page 7 of the Office Action includes the parenthetical "from the tachometer and thus speed signal," however, Applicant respectfully submits that this does not disclose the recited element. A tachometer has not been shown, in the record, to relate to a direction signal. Indeed, Applicant is unable to find a disclosure of an electronic direction signal in the cited document and the Office Action does not appear to provide a specific citation to a particular supportive portion of the document. Thus, Applicant submits that Throne-Booth does not disclose the subject matter of claim 34.

Applicant further notes that dependent claims 3-4, 6-8, 12-13, 19, 23-25, 27, 28, 31-32, 42 and 44-45 each recite additional elements beyond that of the independent claims from which each depends. For at least the reasons expressed earlier, Applicant submits that dependent claims 3-4, 6-8, 12-13, 19, 23-25, 27, 28, 31-32, 42 and 44-45 are in condition for allowance.

Reconsideration and allowance of claims 1, 3-4, 6-8, 12-14, 19, 23-26-28, 31-34, 42, and 44-45 are respectfully requested.

Claim 34 was rejected under 35 USC § 102(e) as being anticipated by MacGregor et al. (U.S. 6,450,587).

Applicant respectfully traverses and submits that *prima facie* anticipation has not been established because it appears that MacGregor does not disclose all recited elements. For example, Applicant is unable to find, in MacGregor, a disclosure of an electronic direction signal, as recited in claim 34. Page 8 of the Office Action includes a parenthetical phrase "also the speed signal," however, such a phrase does not establish that MacGregor includes a teaching of an electronic direction signal. Indeed, Applicant is unable to find such a teaching in the cited document and the MacGregor citation noted in the Office Action does not clearly teach the recited element.

The detailed action portion of the Office Action includes comments regarding claims 35-42 but does not expressly include the statement that such claims stand rejected. In addition, it appears that claim 42 depends from claim 14 rather than from claim 34. Nevertheless, Applicant is unclear as to the status of claims 35-41. The Office Action dated May 22, 2003 noted that claims 35-41 and 43 were objected to and would be allowable if re-written in independent form. Applicant respectfully submits that independent claim 34 is allowable for at least the reasons noted above and therefore, those claims dependant on claim 34, namely claims 35-41 and 45, are also believed to be in condition for allowance. Applicant notes that claim 42 and claim 43 depend from independent claim 14. Clarification or withdrawal of any rejection is respectfully requested.

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In the event that claims 35-41 (those dependent on claim 34) are intended to be rejected based on 35 USC § 102(e) as being anticipated by MacGregor, Applicant respectfully traverses and notes that each recites additional elements beyond that of the independent claim from which each depends. For at least the reasons expressed earlier, Applicant submits that dependent claims 35-41 are in condition for allowance.

Reconsideration and allowance of claims 34-41 are respectfully requested.

§103 Rejection of the Claims

Claims 2, 9-11, 15-18, 20-22, and 29-30 were rejected under 35 USC § 103(a) as being unpatentable over Throne-Booth in view of Smithline (U.S. 5,734,336).

Applicant respectfully traverses the rejection and submits that prima facie obviousness has not been established. Applicant submits that the proposed combination is improper and cannot be made without changing the principle of operation of one or the other of Throne-Booth and Smithline.

Applicant submits that the principle of operation of Throne-Booth is different than that of Smithline, and therefore, they cannot be combined without substantial reconstruction and redesign. Smithline refers to "alerting vehicle operators of the potential for collision" (Background) whereas Throne-Booth refers to "obtain[ing] a smooth and comfortable precise stopping of a vehicle in accordance with a predetermined movement control profile curve" (Abstract). Smithline does not appear to be interested in operating brakes or "smooth and comfortable . . . stopping." In the Smithline document, Applicant is unable to find any mention of deceleration and the only mention of braking is in the context of storing braking activity in memory. Accordingly, Smithline does not appear to be interested in releasing or modulating brakes. Throne-Booth, on the other hand, relates to fixed objects and predetermined deceleration profiles and gives no reason to provide a warning light or other display. Throne-Booth relates to predetermined stopping where the track upon which the vehicle is traveling includes "cables laid between the track rails." Thus, Throne-Booth knows where the final stopping point is located even before selecting a deceleration profile. Smithline, in contrast, does not know where stopping point but instead, is only interested in providing a warning to the driver. Throne-Booth purports to operate automatically, whereas Smithline requires a driver to receive the warning

signal and take an action. For these and other reasons it appears that Throne-Booth and Smithline appear to operate according to different principles and thus, to combine would require substantial reconstruction and redesign. It appears that the proposed combination is not based on a motivation found in the record but rather is based on impermissible hindsight reasoning in light of the teachings of the Applicant's disclosure.

The Office Action assertion of reduced costs associated with wireless systems is unsupported in the record. The record does not include evidence in support of the asserted motivation to combine Throne-Booth and Smithline.

The Office Action has not adequately supported the selection and combination of the Throne-Booth and Smithline to render obvious that which the Applicant has described. In contrast, the Office Action sets forth a conclusory statement that "a wireless system will reduce weight and installation costs" which does not adequately address the issue of motivation to combine. The factual question of motivation is material to patentability, and cannot be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." W.L. Gore v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983). The Office Action does not appear to include the requisite findings as to motivation (based on evidence of record), and also does not explain the reasoning by which the findings are deemed to support the conclusion of obviousness.

Reconsideration and allowance of claims 2, 9-11, 15-18, 20-22 and 29-30 is respectfully requested.

Claim 5 was rejected under 35 USC § 103(a) as being unpatentable over Throne-Booth in view of Noyori et al. (U.S. 3,918,058).

Applicant respectfully traverses the rejection and submits that *prima facie* obviousness has not been established. Applicant submits that the proposed combination is improper and cannot be made without changing the principle of operation of one or the other of Throne-Booth and Noyori.

Applicant submits that the principle of operation of Throne-Booth is different than that of Noyori, and therefore, they cannot be combined without substantial reconstruction and redesign.

Noyori refers to Doppler radar whereas Throne-Booth refers to "a vehicle stopping control apparatus . . . which does not require unreasonably accurate vehicle parameter sensing instruments" (Summary of the Invention). In addition, Noyori does not relate to "smooth and comfortable precise stopping" according to a predetermined deceleration profile (as in Throne-Booth), but instead refers to maximum braking without skidding (column 4). The braking action described in Noyori does not appear to be compatible with a predetermined deceleration profile as in Throne-Booth. Accordingly, Applicant submits that Applicant submits Throne-Booth and Noyori cannot be combined without substantial reconstruction and redesign, and therefore, the proposed combination appears to be improper.

Reconsideration and allowance of claim 5 is respectfully requested.

Claim 43 was rejected under 35 USC § 103(a) as being unpatentable over Throne-Booth in view of Ingo (GB 2,334,560).

Applicant respectfully traverses the rejection and submits that *prima facie* obviousness has not been established. Applicant submits that the proposed combination is improper and cannot be made without changing the principle of operation of one or the other of Throne-Booth and Ingo.

The Office Action has not adequately supported the selection and combination of the Throne-Booth and Ingo to render obvious that which the Applicant has described. In contrast, the Office Action sets forth a conclusory statement regarding "providing a means of maintaining the parked vehicle in the desired stop or parked position" which does not adequately address the issue of motivation to combine. The factual question of motivation is material to patentability, and cannot be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." W.L. Gore v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983). The Office Action does not appear to include the requisite findings as to motivation (based on evidence of record), and also does not explain the reasoning by which the findings are deemed to support the conclusion of obviousness.

Reconsideration and allowance of claim 43 is respectfully requested.

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CONCLUSION

Applicant respectfully submits that the pending claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6911 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 444 day of June, 2004.

Name

Signature

all